

REVISION OF THE GENERA *COLPOCHILA*
 (INCLUDING *HAPLONYCHA*), *SERICESTHIS* AND
 THEIR ALLIES, WITH DESCRIPTIONS
 OF NEW SPECIES.

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PART I.

Since the completion of my Revision of the genus *Heteronyx* I have been studying some of the other Australian genera which belong to the group of *Melolonthidae* called by M. Lacordaire "*Heteronycides*." This group seems to fall naturally into three subgroups,—1st containing genera with the elytra abbreviated (*Liparetrus* and its allies), 2nd those with the elytra normal and the claws simple (*Sericesthis*, &c.), 3rd those with the elytra normal and the claws not simple (*Heteronyx* and its allies). The 2nd of these subgroups consists of the following already described genera,—*Sericesthis*, *Telura*, *Haplopsis*, *Haplonycha*, *Colpochila*, *Colobostoma*,* *Pachygastra*, and perhaps *Diphyllocera* and *Homolotropus*. The last named two genera I have not seen, nor are they sufficiently described,—no mention being made *e.g.* of their claw structure beyond that the former is said to have simple *hind* claws (if this implies that the anterior claws are *not* simple the statement disassociates it from the *Sericesthis* subgroup). This second subgroup of *Heteronycides* appears to me divisible again into 2 sections, the former having the hind tibiæ scarcely dilated at the apex (the width at the apex scarcely greater than in the middle)

* I think there is very little doubt that Sir W. Macleay's genus *Platydesmus* is identical with this; Burmeister's suggestion that *Colobostoma* may be identical with *Microthopus*, Hope (near *Liparetrus*), is almost certainly mistaken. Blanchard's description (Cat. Coll. Ent. 1850) seems to have been taken from the original type of *Sericesthis rufipennis*, Boisd., and there seems to be scarcely a doubt that the insect Blanchard described was identical with *Platydesmus*, Macl. *Microthopus* is a very different insect from Western Australia.

and the breast at most moderately hirsute,—the latter having the hind tibiæ strongly dilated at the apex and the breast usually densely lanuginous. The first above named three genera of this group form the 1st section and the other four the second. But in this second section it appears to me that *Haplonycha* must be suppressed as not really distinct from *Colpochila*, and therefore the section will consist of the following genera, as tabulated,—

A. Elytra geminate-striate.

B. Labrum arched above, front tibiæ with 3 teeth
externally..... *Colpochila*.

BB. Labrum flat above, front tibiæ without a
trace of more than 2 teeth externally..... *Pachygastra*.

AA. Elytra evenly (or nearly so) punctulate-striate *Colobostoma*.

I am not at this moment prepared to furnish a tabulation of the genera forming the section with hind tibiæ scarcely dilated at the apex, because I think at least one new generic name will be required. *Sericesthis* (the only one of them concerned in this part of the present memoir) may be distinguished from the others by its elytra being geminate-striate. I hope to deal with these genera in the next part.

Haplonycha being regarded as not really distinct from *Colpochila*, twenty species are enumerated in Masters' Catalogue. The descriptions of two of these are insufficient for identification (*pinguis*, Macl., and *ciliata*, Boisd.), three I should eliminate from the genus on account of their having genuinely punctulate-striate elytra (*obscuricornis*, Blanch., *striatella*, Blanch., and *rugosa*, Burm.), while *Astrolabei*, Boisd., having its prothorax "covered with long adpressed hairs" is very likely to be a member of some other genus (indeed it might well be *Trichelasmus pilicollis*, Shp.), and *Tasmanica*, Germ., I have already pointed out (Trans. Roy. Soc. S.A., 1887, p. 206) cannot be attributed to this genus.

Since the publication of Masters' Catalogue Sir W. Macleay has described *Colpochila testaceipennis*. It appears moreover so extremely probable (as noted below) that *Melolontha obesa*, Boisd., is not identical with *Haplonycha obesa*, Burm., that I feel obliged to treat them as two species. Thus adjusted the genus contains

15 species which seem to me fairly entitled to their position, and described in such fashion as to be at least possibly capable of identification. Eight of these I have identified with more or less confidence, while there are seven which I am quite confident that I have not seen (*gagatina*, Burm., *iridescens*, Blanch., *scutalis*, Blanch., *crassiventris*, Blanch., *Roei*, Burm., *Gouldi*, Hope, and *obesa*, Boisd.).

On these I will make the following remarks ;—*scutalis*, Blanch., is said to be very close to *obesa*, Boisd., and to differ from it in being of a uniform ferruginous colour, in its closer puncturation, and “especially” by its scutellum being sulcate down the middle. I have not seen any species of the genus presenting the last named character ; if it could have been an individual peculiarity of the example described, then *scutalis*, Blanch., might well be *obesa*, Burm. *C. obesa*, Boisd., is referred to below. *C. gagatina*, Burm., is a smaller species than any of its congeners known to me and is said to be of a deep black colour with the head and prothorax opaque. *C. iridescens*, Blanch., is described as a black species with antennæ entirely testaceous, and the pygidium deeply punctulate ; the only iridescent species known to me which could at all be called “black” is *pulchella*, sp.nov., but it has dark antennæ and the pygidium (not punctulate but) granulate. *C. crassiventris*, Blanch., is a very large (long. 16 lines) species from W. Australia ; I have seen nothing at all like it. *C. Roei*, Burm., is another large species from Western Australia quite different from anything I have seen. *C. Gouldi*, Hope, is from the Northern Territory of S. Australia, and besides other differences is very much larger than any species I have seen from Northern localities.

The external sexual characters so far as I can discover are not strongly marked in the species of this genus. The flabellum of the antennæ seems invariably to consist of shorter (and frequently of less numerous) lamellæ and the intermediate ventral segments to be usually more convex in the female than in the male. The tarsi are invariably longer in the latter sex than in the former. I cannot find any constant distinction in the outline of the apical ventral segment.

The following tabulation will I hope assist in the easy identification of the species treated in the subsequent pages.

- A. Antennæ 8-jointed.
- B. Prothorax in front and behind thickly clothed
with very long setæ *crinita*, Burm.
- BB. Prothorax not as above..... *ruficeps*, Burm.
- AA. Antennæ 9-jointed.
- B. Iridescent species.
- C. Pygidium nitid and more or less punctulate.
- D. Puncturation of entire head even and close.
- E. Clypeus unusually long, narrowing forward, with almost straight sides *punctiventris*, Blackb.
- EE Clypeus normal..... *bella*, Blackb.
- DD. Puncturation of head behind much less close than of clypeus *punctulata*, Blanch.
- CC. Pygidium subopaque, minutely granulate or rugulose.
- D. Sides of prothorax not sinuate behind middle.
- E. Puncturation of prothorax not finer than of elytra..... *solida*, Blackb.
- EE. Puncturation of prothorax considerably finer than of elytra *deceptor*, Blackb.
- DD. Sides of prothorax strongly sinuate behind middle..... *pulchella*, Blackb.
- BB. Non-iridescent species.
- C. Head, prothorax, scutellum, &c., quite black, elytra pale testaceous brown..... *bicolor*, Blackb.
- CC. Not coloured as *bicolor*.
- D. Prothorax having a well-defined lateral gutter with close set punctures which bear long soft hairs.
- E. Flabellum of antennæ having more than 4 joints in both sexes.
- F. Disc of prothorax with plentiful well-defined puncturation.

- G. Hind tarsi with 2nd joint decidedly longer than basal joint.
- H. Basal joint of flabellum in female scarcely half as long as 3rd joint... *dubia*, Blackb.
- HH. Basal joint of flabellum in female very little shorter than 3rd joint... *laminata*, Blackb.
- GG. Basal joint of hind tarsi equal to 2nd joint *carinata*, Blackb.
- FF. Disc of prothorax without well-defined puncturation..... *fortis*, Blackb.
- EE. Flabellum of antennæ having less than 5 joints in both sexes..... *gigantea*, Burm.
- DD. Prothorax normal.
- E. Pygidium not altogether lævigata and nitid.
- F. Puncturation of head uniform.
- G. Colour of upper surface more or less ferruginous or testaceous.
- H. Basal joint of hind tarsi shorter than 2nd joint.
- I. Species of normal form,—*i.e.*, moderately ovate.
- J. Flabellum 3-jointed in both sexes.
- K. Pygidium nitid.
- L. Elytral suture prominent at apex.
- M. Hind angles of prothorax (viewed from above) well-defined..... *pygmaea*, Blackb.
- MM. Hind angles of prothorax feeble, much rounded off..... *badia*, Burm.
- LL. Elytral suture not prominent at apex..... *pectoralis*, Blanch.
- KK. Pygidium opaque through presence of close and fine, but well defined puncturation.. *destructor*, Tepper.
- JJ. Flabellum 4-jointed in both sexes *sinuaticollis*, Blackb.
- II. Species of very short form much dilated behind..... *obesa*, Burm.

- HH. Basal joint of hind tarsi not shorter than 2nd joint.
- I. Prothorax strongly declivous hindward near base (external teeth of front tibiæ thick and obtuse)..... *gibboscollis*, Blackb.
- II. Prothorax normal (external teeth of front tibiæ acute)..... *setosa*, Blackb.
- GG. Colour of upper surface entirely shining black..... *funerea*, Blackb.
- FF. Puncturation of clypeus much closer than of hind part of head.
- G. Flabellum of antennæ 3-jointed in both sexes..... *testaceipennis*, MacL.
- GG. Flabellum of antennæ 4-jointed in both sexes..... *gracilis*, Blackb.
- EE. Pygidium quite lævigata and nitid..... *fraterna*, Blackb.

COLPOCHILA FORTIS, sp.nov.

Ovata; sat opaca; testacea, vix iridescens; capite prothorace scutello pedibusque rufescentibus; pectore valde hirsuto, abdomine setoso; capite confertim rugulose confluentem nec crasse, prothorace pygidioque (hoc æquali) sparsissime subtilissime, elytris (his geminato-striatis) fortius minus sparsim, punctulatis; antennis 9-articulatis; tarsorum posticorum articulo 2° 1° manifeste longiori.

Maris antennarum flabello stipitilongitudine æquali, 5-articulato, articulis æqualibus, stipitis articulo ultimo intus breviter acute dentato.

Femine antennarum flabello stipitis dimidio vix longiori, 5-articulato,—articulo 2° quam 3^{us}, (1° quam ille), paullo breviori,—stipitis articulo ultimo haud dentato.

[Long. 12, lat. 6½ lines.

Closely resembling *H. gigantea*, Burm., but with the prothorax not so transverse (a little less than twice as wide as long), with its front angles more prominent; the elytra are more strongly punctured, the punctures being continuous on the intervals

between the striæ of each pair, the flabellum of the antennæ quite different in both sexes, and the uppermost tooth on the front tibiæ larger.

S. Australia.

COLPOCHILA CARINATA, sp.nov.

Ovata; sat opaca; testacea, vix iridescens; capite prothorace scutello pedibusque rufescentibus; pectore valde hirsuto, abdomine setoso; capite confertim rugulose confluentem nec crasse, prothorace sparsim leviter, elytris (his geminato-striatis) fortius minus sparsim, pygidio (hoc antice carinato, apice minus late rotundato-truncato) sparsim fortius, punctulatis; antennis 9-articulatis; tarsorum posticorum articulis basalibus 2 sat æqualibus.

Maris antennarum flabello stipitis duabus partibus longitudine æquali, 5-articulato,—articulo 1° quam ceteri paullo breviori, —stipitis articulo ultimo intus breviter minus acute dentato.

Feminae antennarum flabello stipitis dimidio vix longiori, 5-articulato,—articulo 1° quam ceteri paullo breviori,—stipitis articulo ultimo haud dentato. [Long. $12\frac{1}{2}$, lat. 7 lines.

Very like *C. fortis* and *gigantea*, but with the prothorax (which resembles that of *gigantea* in shape, being fully twice as wide as long with front angles only moderately produced) more distinctly punctured and the scutellum wider than in either of them and the flabellum of the antennæ different (that of the female however being almost as in female *fortis*). The carinate pygidium is a very distinctive character. The sculpture of the elytra and the teeth of the front tibiæ are as in *C. fortis*.

Mulwala, N.S. Wales; sent to me by Mr. T. G. Sloane.

COLPOCHILA LAMINATA, sp.nov.

Ovata; sat opaca; testacea vel ferruginea, vix vel haud iridescens; capite prothorace scutello pedibusque rufescentibus; pectore valde hirsuto, abdomine setoso; capite confertim rugulose confluentem nec crasse, prothorace elytris (his geminato-striatis) subfortiter minus sparsim, pygidio sparsissime sat subtiliter, punctulatis; antennis 9-articulatis;

elytris apice suturali breviter spinoso-productis; tarsorum posticorum articulo 2° 1° sat longiori.

Maris antennarum flabello stipite vix breviori, 6-articulato,— articulo 1° quam ceteri paullo breviori,—stipitis articulo ultimo intus breviter acute dentato; pygidio haud carinato, apice late truncato-emarginato.

Feminae antennarum flabello stipitis dimidio sat longiori, 5-articulato,—articulo 1° quam ceteri paullo breviori,—stipitis articulo ultimo intus dentato; pygidio antice carinato, apice late truncato-emarginato. [Long. 15, lat. 8 lines.

Another species closely allied to the preceding two and to *gigantea*, Burm.; average specimens are of larger size however. The prothorax (which is barely twice as wide as long) is more strongly and closely punctured than in any of those three species, while the flabellum of the antennæ is different in the male being six-jointed, and the female is equally distinct by the production in a strong tooth-like process of the apical joint of the antennal stipes.

S. Australia.

COLPOCHILA DUBIA, sp.nov.

Ovata; sat opaca; testacea vix iridescens; capite prothorace scutello pedibusque rufescentibus; pectore valde hirsuto, abdomine setoso; capite confertim rugulose confluentem nec crasse, prothorace elytrisque (his geminato-striatis) subfortiter minus sparsim, pygidio sparsissime sat subtiliter, punctulatis; antennis 9-articulatis; elytris apice suturali nullo modo producto; tarsorum posticorum articulo 2° 1° sat longiori.

Feminae antennarum flabello stipitis dimidio vix longiori, 5-articulato, articulo 2° quam 3^{us} paullo (1^{us} quam ille multo) breviori, stipitis articulo ultimo intus obtuse vix dentato; pygidio antice carinato. [Long. 11, lat. 6 lines.

This species is extremely close to *C. laminata*, the only difference that I can specify of a non-sexual character being that the apex of the suture of the elytra is not produced in a short tooth-like

process, and that the geminate striæ of the elytra are more strongly impressed. The flabellum of the antennæ in the female (with its basal lamella only about half as long as the apical three lamellæ) is however quite distinct from that of *C. laminata*.

I have an example which I believe to be the male of this species; apart from smaller size (which cannot be relied on as a specific character) it scarcely differs from the male of *C. laminata*, except in the two non-sexual characters mentioned above.

S. Australia.

COLPOCHILA BELLA, sp.nov.

Ovata; sat nitida; brunnea vel rufo-testacea; læte iridescens; pectore dense cinereo-hirsuto; abdomine sparsim setoso; capite (hoc sat brevi) confertim rugulose, prothorace pygidioque (hoc apicem versus longitudinaliter vix impresso) subtiliter minus crebre, elytris (his geminato-striatis) sat fortiter sat crebre, punctulatis; antennis 9-articulatis; elytris apice suturali vix spinoso-productis; prothoracis basi bisinuata, quam margo anticus plus hujus dimidio latiori, angulis posticis (superne visis) valde acutis (a latere visis) obtusis.

Maris antennarum flabello stipite vix breviori, 4-articulato, articulo 1^o quam 2^{us} fere duplo breviori; stipitis articulo ultimo intus breviter acute dentato.

Feminae antennarum flabello stipite minus duplo breviori, 3-articulato, stipitis articulis ultimis 2 intus dentatis.

[Long. $8\frac{1}{2}$, lat. $4\frac{1}{3}$ lines.

The prothorax is twice as wide as long; from the front angles (which are acute and not very prominent) the sides diverge with but little sinuation to behind the middle, where they are strongly rounded; from this point they converge to the hind angles sinuately (when viewed from above), but without sinuation when examined from the side.

Compared with *C. obesa*, Burm., (to which I compare it merely because that species is a common one, but the two are very different),—besides the very different colour and antennal characters,—the present species has the prothorax more rounded on the sides with very much more defined hind angles (viewed from

above), the elytra more strongly punctured, with their sutural apex briefly spined, &c., &c. The uppermost of the three teeth on the front tibiæ in this species is very small as compared with most other *Colpochila*. Two female examples in my collection appear to belong to this species, although differing much in colour. Their elytra are of a rich iridescent blue colour, and their underside is piceous, as also their antennæ and legs, but I can find no other difference.

S. Australia; Adelaide district.

N.B.—A male example taken in the Port Lincoln district (the only iridescent *Colpochila* I have seen from that locality) has the antennæ pale testaceous in contrast with the dark brown head (in *C. bella* from the Adelaide district the antennæ are always of the colour of the head), the basal joint of the antennal flabellum decidedly less than half as long as the 2nd joint, the scutellum wider and more rounded behind, the elytra a little less strongly punctured, and the general form wider and shorter. I think it is probably best regarded as a local form of *C. bella*, which might perhaps be distinguished as “var. ? *Lindensis*.”

COLPOCHILA PUNCTIVENTRIS, sp.nov.

Elongato-ovata; sat nitida; rubro-brunnea; læte iridescens, antennarum flabello læte flavo; pectore dense testaceo-hirsuto, abdomine sparsim setoso; capite (hoc antice sat elongato-angustato) confertim rugulose, prothorace pygidioque (hoc postice longitudinaliter sat gibboso), subfortiter minus sparsim, elytris (his geminato-striatis) sat fortiter sat crebre, punctulatis; antennis 9-articulatis; elytris apice suturali haud spinoso-productis; prothoracis basi leviter bisinuata, quam margo anticus minus hujus dimidio latiori, angulis posticis (superne visis) vix acutis; prothorace longitudinaliter late leviter canaliculato; abdomine (ad latera crebre in medio sparsim) subfortiter punctulato.

Maris antennarum flabello stipite paullo breviori, 4 articulo,—articulo 1° quam 2° paullo breviori; stipitis articulo ultimo intus longe acute dentato.

Feminae antennarum flabello stipite multo breviori, sub-4 articulato,—articulo 1° quam 2° plus duplo breviori; stipitis articulo ultimo intus sat longe sat acute dentato.

[Long. 9-10, lat. $4\frac{2}{5}$ - $5\frac{2}{5}$ lines.

This species considerably resembles *C. bella*, from which it differs (apart from antennal characters) in its long clypeus strongly narrowed anteriorly, the closer puncturation of its elytra and the stronger puncturation of its ventral segments, the sutural apex of the elytra not spinose, and the different form and sculpture of its prothorax, which is much less narrowed anteriorly and has less rounded sides, with hind angles appearing from above much less acute and prominent, &c., &c. This segment is just twice as wide as long, and its sides are almost evenly curved, the greatest width however being behind the middle.

S. Australia; Adelaide district.

COLPOCHILA SOLIDA, sp.nov.

Elongato-ovata; subnitida, nigro-fusca vix iridescens, capite prothorace pedibusque (nonnullis exemplis) obscurioribus, antennis palpisque rufo-testaceis; pectore valde fulvo-hirsuto, abdomine setoso; capite (hoc sat brevi) confertim rugulose, prothorace sat crebre sat rugulose, elytris (his geminato-striatis) fortius subsparsim punctulatis; pygidio (parte apicali excepta) pustulis minutis (singulis setas brevissimas singulas ferentibus) crebre obsito; antennis 9-articulatis; prothoracis basi bisinuata, quam margo anticus vix hujus dimidio latiori, angulis posticis (superne visis) vix acutis; elytris apice suturali breviter spinoso-productis.

Mas (?) latet.

Feminae (?) antennarum flabello stipitis dimidio vix longiori, 3-articulato, stipitis articulis ultimis 2 intus breviter obtuse dentatis.

[Long. 11, lat. 6 lines (vix).

The prothorax is scarcely twice as wide as long; from the front angles (which are sharp and moderately produced) the sides (viewed from above) diverge strongly to just behind the middle, where they are strongly rounded; they then converge slightly and scarcely sinuately to the basal angles.

A fine robust species, nearest I think to *C. punctiventris* but with the clypeus much shorter (at the base quite twice as wide as it is long down the middle), the sides of the prothorax very much more strongly rounded, elytra spinose at the sutural apex, pygidium differently sculptured, &c., &c. I am not certain of the sex of the two examples before me; the comparatively short and stout hind tarsi point to their being females.

S. Australia.

COLPOCHILA BICOLOR, sp. nov.

Elongato-ovata; minus nitida; niger, antennis palpis pedibus nonnihil picescentibus, elytris brunneo-testaceis anguste nigro-cingulatis; pectore cinereo-hirsuto, abdomine sparsim setoso; capite (hoc minus brevi) confertim rugulose, prothorace confertim subrugulose, elytris (his geminato-striatis) sat sparsim minus fortiter, pygidio (hoc antice subconcentrice rugato) et subtiliter et minus subtiliter, punctulatis; antennis 9-articulatis; prothoracis basi bisinuata, quam margo anticus hujus dimidio latiori, angulis posticis (superne visis) subrectis; elytris apice suturali breviter spinoso-productis.

Maris (?) antennarum flabello stipitis dimidio paullo longiori, 3-articulato, stipitis articulis ultimis 2 intus breviter obtuse dentatis. [Long. 8 (vix), lat. 4½ lines.

The prothorax is just twice as wide as long; from the front angles (which are acute and rather strongly prominent) the sides (as viewed from above) diverge almost without sinuation to well behind the middle, where they are strongly rounded; they then converge, with very slight sinuation to the base.

The almost rugulose puncturation of the prothorax and pale brownish yellow elytra each margined all round very narrowly with black, or dark piceous, renders this a very distinct species. I think the examples I have seen are all of one sex, and I believe them to be males on account of the hind tarsi being comparatively slender and elongate.

S. Australia (?) ; probably from the interior.

COLPOCHILA DECEPTOR, sp. nov.

Elongato-ovata ; sat nitida ; brunnea vel rufotestacea, iridescens ; pedibus piceis, antennis palpisque pallidis ; pectore dense cinereo-hirsuto ; abdomine sparsim setoso ; capite (hoc sat brevi) confertim rugulose, prothorace minus subtiliter sat crebre, elytris (his geminato-striatis) sat fortiter vix crebre, punctulatis, pygidio obscure sat crebre granulato, granulis singulis setas brevissimas singulas ferentibus ; antennis 9-articulatis ; prothoracis basi leviter bisinuata, quam margo anticus hujus dimidio latiori, angulis posticis (superne visis) distinctis obtusis nullo modo productis ; elytris apice suturali hand productis.

Mas (?) latet.

Feminae (?) antennarum flabello stipite minus duplo breviori, 3-articulato, —stipitis articulis ultimis 2 intus vix dentatis.

[Long. $9\frac{1}{3}$, lat. 5 lines.

This species is exceedingly close to *C. bella*, from which it differs chiefly by its more closely punctured prothorax, which is a little less transverse (not quite twice as wide as long), with sides not sinuate behind the middle, hind angles not acute and not in the least produced (in *bella* these are subdentiform pointing somewhat outward and hindward), and base less strongly bisinuate ; I notice too that in the example before me the uppermost of the external teeth on the front tibiæ is very much larger than in any example that I have seen of *bella*, and all the teeth are much less acute. The pygidium too is differently sculptured, having the punctures replaced by minute granules each bearing a very short erect seta. I suppose the example before me to be a female, on account of its comparatively short and stout hind tarsi. The antennæ scarcely differ from those of *C. bella* (female).

Central Australia ; McDonnell Ranges ; taken by Mr. A. S. Wild.

N.B.—I have received from Mr. Sloane two examples taken in N.S. Wales which probably pertain to a species distinct from, but very close to, *C. deceptor* ; as they appear to be the same sex (female) I think it better not to give them a separate name for the present, but will content myself with saying that they are of

wider and less elongate form (long. $8\frac{1}{2}$, lat. 5 lines) and have all the teeth of their front tibiæ longer and sharper (the uppermost being,—as in the type of *C. deceptor*,—much larger in proportion to the others than it is in *C. bella*, in which it seems invariably to be very small). It is probable that the inspection of males of both species would reveal other distinctions.

COLPOCHILA PULCHELLA, sp.nov.

Breviter ovata (nec fortiter postice dilatata); sat nitida; picea, antennis palpis et coxis anticis (exempli typici) rufescentibus; elytris læte cyaneo-iridescentibus; pectore dense cinereo-hirsuto; abdomine sparsim setoso; capite (hoc sat brevi) confertim rugulose, prothorace sparsim minus fortiter, elytris sparsim fortiter, punctulatis; pygidio obscure sat crebre granulato, granulis singulis setas brevissimas singulas ferentibus; antennis 9-articulatis; prothoracis basi bisinuata, quam margo anticus minus hujus dimidio latiori, angulis posticis (superne visis) valde acutis; elytris (exempli typici) apice sat late membranaceis, sutura apice spinoso-producta.

Mas (?) latet.

Feminae antennarum flabello stipitis dimidio multo longiori, 3-articulato, stipitis articulis ultimis 2 intus vix dentatis.

[Long. 7, lat. $3\frac{1}{2}$ lines.

The prothorax is $\frac{3}{4}$ again as wide as long; from the front angles (which are acute and not very prominent) the sides diverge with a moderate sinuation to slightly behind the middle where they are strongly rounded; from this point they converge with a strong sinuation (as viewed from above) to the basal angles which are quite strongly subdentiform,—even more so than in *C. bella*.

This species is not very like any other known to me in shape being short and “stumpy” in appearance but not at all strongly dilated hindward as are the other short species (*C. obesa*, Burm., *e.g.*) known to me. In colour it closely resembles some blue specimens mentioned under the heading of *C. bella*, but differs from them by its much less transverse prothorax (which is less narrowed anteriorly and has its sides more sinuate behind the middle) and its very

differently sculptured pygidium, much larger uppermost tooth of anterior tibiæ, &c. The well defined membranaceous hind border of the elytra (if a constant character) will distinguish this species from almost all other *Colpochila* that I have seen.

S. Australia; Gawler; a single specimen.

COLPOCHILA FUNEREA, sp.nov.

Ovata; nitida; nigra, antennis palpisque piceis (illarum flabello testaceo-ferrugineo); pectore valde fulvo-hirsuto; abdomine setoso; capite (hoc sat brevi) minus crebre minus rugulose, prothorace (fere ut capite postice) subcrebre subfortiter, elytris (his geminato-striatis) sat fortiter sat crebre, pygidio sparsim minus fortiter, punctulatis; antennis 9-articulatis; prothoracis basi fortiter bisinuata, quam margo anticus hujus tertia parte latiori, angulis posticis (superne visis) subrotundatis vix distinctis; elytris (exempli typici) apice sat late membranaceis, sutura apice vix acuta.

Maris antennarum flabello stipite vix breviori, 3-articulato, stipitis articulo ultimo intus breviter acute dentato.

[Long. 8, lat. $4\frac{2}{3}$ lines.

The prothorax is about $\frac{2}{3}$ again as wide as long; from the front angles (which are neither very sharp nor much produced) the sides (as viewed from above) diverge without sinuation to decidedly behind the middle where they are strongly rounded and whence they converge again without sinuation and merge into the base without forming a well-defined angle.

S. Australia; Port Lincoln district; a single specimen obtained by sweeping in Eucalyptus scrub.

COLPOCHILA SINUATICOLLIS, sp.nov.

Ovata; sat nitida; ferruginea; capite (et nonnullis exemplis pedibus) infuscato; pectore valde cinereo-hirsuto; abdomine setoso; capite (hoc elongato) confertim rugulose confluerter vix crasse, prothorace elytris (his geminato-striatis) leviter sat crebre, pygidio (hoc antice concentricè subrugato postice longitudinaliter vix carinato) leviter subsquamose, punctulatis;

antennis 9-articulatis ; elytris apice suturali breviter spinoso-productis ; prothoracis basi fortiter bisinuata, quam margo anticus hujus dimidio latiori, angulis posticis (superne visis) valde acutis, (a latere visis) distinctis.

Maris antennarum flabello stipiti longitudine vix æquali, 4-articulato,—articulo 1° quam 2^{us} sat breviori ; stipitis articulo ultimo intus longe acute dentato.

Feminae antennarum flabello stipite sat breviori, 4-articulato,—articulo 1° quam 2^{us} plus duplo breviori ; stipitis articulo ultimo intus breviter obscure dentato. [Long. 9, lat. 5 lines.

The prothorax is about $\frac{4}{5}$ again as wide as long ; from the front angles (which are acute and moderately prominent) the sides diverge with a slight sinuation to a little behind the middle where they are fairly strongly rounded ; from this point they converge to the hind angles sinuately (when viewed from above) but without sinuation when examined from the side.

Compared with *C. obesa*, Burm., which it resembles in colour and general appearance,—besides the entirely different antennal characters,—the present species has a considerably larger and much more strongly and rugulose punctured head,—the clypeus nearly as long as wide,—the prothorax less transverse and with much better defined hind angles, the elytra much less dilated hindward, with their sutural apex spined, &c., &c.

The specimens on which I have founded the above description are from Port Lincoln ; I have, however, examples from other parts of S. Australia which I cannot make up my mind to regard as genuinely distinct, although they present somewhat puzzling differences,—some are much smaller (ranging down to 7 lines in length), and some have the prothorax a trifle less narrowed anteriorly. It is quite possible that I have before me a group of very closely allied species,—but I do not at present see my way to treat them as such decidedly.

I may add that this species closely resembles one taken by Mr. Sloane in N. S. Wales and which I believe to be *pectoralis*, Blanch.; that species however (besides antennal differences) has a wider prothorax, apex of elytral suture not at all produced, &c., &c.

S. Australia.

COLPÓCHILA PYGMÆA, sp.nov.

Breviter ovata ; sat nitida ; rufo-ferruginea ; pectore valde fulvo-hirsuto, abdomine sparsim setoso ; capite (hoc minus brevi) fortiter vix confertim vix rugulose, prothorace subtiliter minus crebre, elytris (his geminato-striatis) sat fortiter sat crebre, pygidio sparsim obsoletius, punctulatis ; antennis 9-articulatis ; prothoracis basi leviter bisinuata, quam margo anticus vix hujus dimidio latiori, angulis posticis (superne visis) distinctis obtusis ; elytris apice suturali breviter spinoso-productis.

Maris antennarum flabello stipiti longitudine æquali, 3-articulato articulis inter se æqualibus, stipitis articulo ultimo intus breviter acute dentato. [Long. 7, lat. $3\frac{4}{5}$ lines.

The prothorax is about $\frac{3}{4}$ again as wide as long ; from the front angles (which are but feebly produced) the sides diverge with a slight sinuation to a little behind the middle where they are moderately rounded ; thence (as viewed from above) they converge somewhat sinuately to the hind angles, which (viewed from above) appear well defined obtuse angles,—and not far from being right angles.

A well-marked species,—perhaps nearest to *C. obesa*, Burm., which however is a larger insect with the clypeus much shorter (in *C. pygmæa* it is at the base distinctly less than twice as wide as it is long down the middle), the pygidium differently sculptured, &c.

S. Australia.

COLPOCHILA DESTRUCTOR, Tepper.

Ovata ; nitida ; ferruginea, capite elytrorumque sutura (exemplis plerisque) obscurioribus, antennarum flabello læte flavo ; pectore dense cinereo-hirsuto, abdomine sparsim setoso ; capite (hoc sat brevi) confertim rugulose, prothorace sat confertim subrugulose, elytris (his geminato-striatis) minus confertim, pygidio (hoc sat opaco) dupliciter,—et confertissime subtilissime et sparsim magis fortiter, punctulatis ; antennis 9-articulatis (?) ; elytris apice suturali haud spinoso-

productis; prothoracis basi fortiter bisinuata, quam margo anticus fere duplo latiori, angulis posticis (superne visis) distinctis subrectis nullo modo productis, (a latere visis) rotundatis. [Long. 9, lat. 5 lines.

The above description is taken from the labelled type of this insect (which is in the South Australian Museum). It was named by Mr. J. G. O. Tepper (Trans. Roy. Soc. S.A., 1878, p. 64). It would not be possible to identify the insect or even to refer it to a genus by the original description, which states that the "flanges of the prothorax are toothed" and that the antennæ are "10-jointed." The latter of these statements is evidently (although the type has no antennæ) a mistake, unless the specimen described was a monstrosity; the former probably refers to the somewhat sharply produced front angles of the prothorax.

As regards the specimen itself, it is excessively close to the insect which I take to be *Haplonycha obesa*, Burm., but which I do not think is *Melolontha obesa*, Boisd., (vide infra), and I should have hesitated to treat it as distinct if it had not previously received a name; but as it *is* named, and certainly presents some slight distinctions, it seems well to let it stand for the present.

The prothorax of the present species is slightly more than twice as wide as long; from the front angles (which are well produced and acute) the sides (viewed from above) diverge in a feeble arch to the base, but in their hinder half are very nearly parallel, the hind angles appearing almost right angles.

This specimen is decidedly larger than any ordinary type of *C. obesa*, Burm.; its prothorax is more narrowed in front; the front angles of the prothorax are sharper and more produced, the hind angles (viewed from above) appear less rounded off, and the sides are not more divergent in front of the base than at the base itself; the pygidium is a little less nitid, and the general form is more elongate and less dilated hindward.

S. Australia; near Monarto.

COLPOCHILA (HAPLONYCHA) OBESA, Burm.

It appears to me extremely doubtful whether this is identical with *Melolontha obesa*, Boisd., (as Burmeister supposes it to be). The description of *M. obesa*, like most of those in the "Voy. de l'Astr.," is abbreviated to such a degree as to be almost useless, but nevertheless the colour is there stated as "castanea, capite thoraceque nigris" (the other characters mentioned being applicable to almost any species of several genera), and it seems unreasonable to re-describe this insect as being "wholly castaneous" unless with a distinct assertion that the type has been examined and the original description proved erroneous; but, on the contrary, it is clearly to be inferred from his remarks on several other species that Burmeister did not examine Boisdual's types. The species of *Colpochila* are not variable in colour as a rule,—indeed among all the specimens I have examined of the genus I doubt if I have seen any that are as remarkable colour varieties as *M. obesa*, Boisd., would be if it were a var. of *obesa*, Burm. As I have not seen a specimen which I can identify with Boisdual's description, I shall not at present go so far as to propose a new name for *C. (Haplonycha) obesa*, Burm., but I have little doubt it will require a new name eventually. The following remarks will supplement Burmeister's description and assist the identification of his species, which is a well-known N.S. Wales insect, and seems to be (as Burmeister calls it) "common."

It is a shorter species and more dilated behind than any described near ally known to me; in a measured example (female) I find the greatest width across the elytra to be $\frac{3}{5}$ of the length of the whole insect and half again the greatest width across the prothorax. The colour is bright brownish-castaneous, with the hind body and hind legs a little darker than the rest. The head is short,—the clypeus being at its base decidedly more than twice as wide as it is long down the middle. The greatest width of the prothorax is quite twice the length (down the middle) of the same, the base just about half again as wide as the front margin, which is only moderately emarginate and has angles but little prominent;

the sides (viewed from above) appear moderately curved, at their greatest divergence very little in front of the base, and scarcely converging behind that point towards the base; the hind angles (viewed from above) appear almost entirely rounded off, and the base is less strongly bisinuate than in some allied species. The elytra are not wider at their base than the base of the prothorax, and attain their greatest width much behind the middle; their sutural apex has no vestige of a spine. The elytral sculpture is of the kind usual in the genus and is moderately strong. The pygidium has a double system of puncturation,—one very fine and close, the other coarser (but still fine) and less close,—which gives the segment a slightly shagreened appearance. The antennal flabellum is 3-jointed in both sexes (longer in the male than in the female), and is of a somewhat paler colour than the stipes. I have seen no authentic specimen from any locality outside N.S. Wales.

COLPOCHILA FRATERNA, sp. nov.

Ovata; nitida; ferruginea, capite obscuriori, antennis palpisque testaceis; pectore valde cinereo-hirsuto, abdomine setoso; capite (hoc elongato) confertim rugulose, prothorace subtiliter vix crebre, elytris (his geminato-striatis) subfortiter sat crebre, pygidio nullo modo, punctulatis; antennis 9-articulatis; elytris apice suturali breviter spinoso-productis; prothoracis basi fortiter bisinuata, quam margo anticus vix hujus dimidio latiori, angulis posticis (superne visis) sat acutis (a latere visis) distinctis.

Feminae antennarum flabello quam stipitis dimidium sat longiori, 4-articulato,—articulo 1^o quam 2ⁱ dimidium vix longiori; stipitis articulo ultimo intus breviter obtuse dentato. [Long. ♀, lat. $4\frac{1}{3}$ lines.

The outline of the prothorax is almost exactly as in *C. sinuaticollis*, the sides however being scarcely so decidedly sinuate near the base and the hind angles (viewed from above) not quite so acute; indeed the general resemblance of this insect to *C. sinuaticollis* is very great; the following distinctions however seem to

mark something more than a mere variety, viz.,—the puncturation of the prothorax finer and less close and the pygidium altogether lævigata.

I have not seen a male that I can attribute to this species.

S. Australia.

COLPOCHILA GRACILIS, sp.nov.

Elongato-ovata ; sat nitida ; rufo-ferruginea, elytris testaceis ; pectore valde cinereo-hirsuto, abdomine setoso ; capite (hoc sat brevi) sat sparsim haud rugulose (clypeo magis crebre), prothorace subtiliter sparsim, elytris (his geminato-striatis) sparsim paullo magis fortiter, pygidio sparsim minus fortiter, punctulatis ; antennis 9-articulatis ; prothoracis basi sat fortiter bisinuata, quam margo anticus vix plus hujus dimidio latiori, angulis posticis (superne visis) vix acutis nullo modo productis ; elytris apice suturali haud productis.

Maris antennarum flabello stipite longiori, 4-articulato,—articulo 1° quam ceteri vix breviori,—stipitis articulo ultimo intus plus minus elongato-producto.

Feminae antennarum flabello quam stipitis dimidium longiori, 4-articulato,—articulo 1° quam 2ⁱ dimidium longiori ; stipitis articulo ultimo intus breviter dentato. [Long. 8, lat. $4\frac{1}{2}$ lines.

The last joint of the stipes of the antennæ of the male is a little more elongated internally in some examples than in others, so that in some it might almost be counted as a short first joint of the flabellum, which it would make 5-jointed. The prothorax is a little less than twice as wide as long ; from the front angles (which are acute and strongly prominent) the sides diverge to about the middle where they are strongly rounded ; from this point they converge gently and sinuately (viewed from above) to the hind angles.

This species is extremely like *C. testaceipennis*, Macl., but with very different antennæ, longer clypeus (less than twice as wide as long), prothorax sinuately narrowed behind the middle, &c.

S. Australia ; Yorke's Peninsula ; taken by Mr. McDougall.

COLPOCHILA SETOSA, sp.nov.

Elongato-ovata; minus nitida; rufescens, antennis elytrisque pallidioribus; pectore valde hirsuto, elytris setis sat longis suberectis sparsim vestitis, abdomine sparsim setoso; capite (hoc sat brevi) crebre rugulose subtilius (clypeo paullo crassius, et parte pone oculos lævigato, exceptis), prothorace subfortiter sat crebre, elytris (his geminato-striatis) sat fortiter sat crebre subrugulose, pygidio (hoc exempli typici deformi?) crasse obscure rugulose, punctulatis; antennis 9-articulatis; prothoracis basi bisinuata, quam margo anticus hujus tertia parte latiori, angulis posticis (superne visis) subrotundatis; elytris apice suturali vix obscure prominentibus.

Maris antennarum flabello stipite sat breviori, 4-articulato,— articulo 1° quam ceteri vix breviori,—stipitis articulo ultimo intus acute breviter dentato. [Long. 9, lat. $4\frac{1}{2}$ lines.

Fem. latet.

The prothorax is very nearly twice as wide as long; from the front angles (which are acute but only moderately prominent) the sides (viewed from above) diverge to about the middle where they are feebly arched and then scarcely converge hindward to the hind angles; they are not at all sinuate.

This species is allied to *C. testaceipennis*, Macl., *gracilis*, Blackb., &c.,—but is extremely distinct.

Central Australia; McDonnell Ranges.

N.B.—My collection contains an example labelled "Mts. of Victoria" which I cannot distinguish from the type of *C. setosa*, although I think the discovery of the sexes of both forms might probably show them to be distinct.

COLPOCHILA GIBBOSICOLLIS, sp.nov.

C. setosæ valde affinis; differt prothorace multo convexiori (subgibboso) et tibiærum anticarum dentibus externis crassis obtusis, tertio (ab apice enumerato) cum ceteris comparato majori. [Long. 7-8, lat. $4-4\frac{3}{5}$ lines.

This species is so close to *C. setosa* that it would be wasting space to repeat at length all the characters the two possess in common. I am unable to specify any differences other than those mentioned above, but they certainly point to something more than mere local variation. The difference in the convexity of the prothorax is very conspicuously noticeable if the longitudinal outline of that segment be inspected from the side. I have seen several specimens of this insect among which I believe both sexes are included,—but if so their sexual characters are very slight. Those specimens which I take to be females are the smaller examples, and have the flabellum of the antennæ and the tarsi a little shorter than specimens that I regard as males,—but the differences are not so well marked as to assure me that they are sexual. The bluntness of the teeth on the front tibiæ together with the uppermost tooth being much larger (in proportion to the lower two teeth) than in *C. setosa*,—in which these teeth are almost as in *C. bella*,—seems a reliable character. The front tibiæ of *C. gibboscollis* scarcely differ from those of *C. obesa*, Burm. *C. gibboscollis* may be at once distinguished from *C. testaceipennis*, Macl., (which also occurs in tropical Australia) by its much more closely punctured head, 4-jointed flabellum of antennæ, &c., &c. The pygidium in this species is finely and somewhat closely punctured and also bears a system of sparse setiferous granules.

N. Territory of S. Australia.

SERICESTHIS.

Perhaps there is no other genus of Australian Coleoptera in such a hopeless tangle as this is in. As far as I can ascertain sixteen specific names have been attributed correctly to it or to synonyms of it. The author of the genus is Dr. Boisduval who in 1832 (*Voy. de l'Astrolabe*) described five species which he called *Sericesthis geminata*, *nigrolineata*, *pullata*, *rujipennis* and *cervina*, but without stating the generic characters in a formal manner. These descriptions are extremely poor and it is doubtful whether they would suffice for the positive identification of any of the insects on which they were founded. However in 1850 M. Blanchard

examined the types and in his "Catalogue de la Collection Entomologique (Muséum d'Histoire Naturelle de Paris)" placed three of them under the name *Sericesthis*, along with four new species then described (*aureorufa*, *rugosiceps*, *pruinosa* and *glabra*) and two species (*sericans* and *languida*) which had been in the interval described by Dr. Erichson (Archiv für Naturgeschichte, 1842) as forming a new genus which he (Dr. Erichson) called *Scitala*. In 1842 Hope (Ann. Nat. Hist. IX) had increased the difficulties of *Sericesthis* by attributing to it a species (*Gouldi*) which he supposed to be generically identical with Boisduval's species of *Sericesthis* but which was in reality very different being congeneric with species for which in the next year Dr. Erichson proposed the name *Colpochila*. In 1855 Dr. Burmeister published his admirable work on the *Lamellicornia* (Vol. IV) and in it he recognised the generic identity of three of Boisduval's species of *Sericesthis* with the species which Erichson had subsequently called *Scitala*, and referred the other two (one of them doubtfully, and certainly wrongly) to genera which had been formed subsequently to *Sericesthis*; but nevertheless he suppressed the name *Sericesthis* in favour of *Scitala*, apparently on the ground that there was no formal description of *Sericesthis* as a genus (he does not seem to have been aware how Hope had complicated the question as he does not mention *S. Gouldi*, Hope) and further for the remarkable reason that two of Boisduval's species of *Sericesthis* were congeneric with species for which new generic names had been subsequently provided. In 1856 M. Lacordaire came upon the scene with the Lamellicorn volume of that incomparable work the "Genera des Coléoptères" and without any distinct statement of his reasons for doing so reproduced Dr. Burmeister's conclusions.

Here the matter stands at present, the name *Scitala* being thus triumphant and *Sericesthis* having been suppressed. But I venture to think nevertheless that it is not as it should be, and that *Sericesthis* must be restored. The state of the case, admitted by both Dr. Burmeister and M. Lacordaire, is that *Melolontha pruinosa*, Dalm., was the earliest named species of the genus, and that it was also the first to receive a generic name distinguishing

it from *Melolontha*, when Boisduval re-described it as *Sericesthis geminata*. Surely then the name *Sericesthis* must stand.

According to M. Blanchard (whose statement, apparently on the authority of its author, is reproduced by Dr. Burmeister and M. Lacordaire), a species which Boisduval described under a new generic name,—*Cotidia australis*,—is in reality identical with *Sericesthis geminata*, Boisd.,—but in spite of M. Blanchard's having apparently seen the original type I do not think this synonymy can be accepted,—for although Boisduval's description of *Cotidia australis* is insufficient for the *identification* of that insect, the description is absolutely inconsistent with such synonymy; Boisduval's description contains the phrase “subtus pilis fulvis hirsuta,” and since nothing is said in any of the descriptions of *Sericesthis* about the underside being hirsute (although in several of them the underside is referred to), it seems fairly certain that Boisduval's *Cotidia australis* is really hirsute on the undersurface (as in *Colpochila*) and not merely furnished with some thin inconspicuously dispersed pilosity (as in *Scitala pruinosa*, Dalm. &c.), and it would be easier to believe that the original type had been confused with some other specimen than that the genus *Cotidia* was founded upon a species not distinguishable by the greater pilosity of its undersurface from the ordinary types of *Sericesthis*. Of course Boisduval's phrase if applied to a *Sericesthis* (say *S. pruinosa*) would not be more than an *exaggeration* of the real condition of the undersurface; but the point is that Boisduval's descriptions of *Cotidia* and *Sericesthis* are irreconcilable with any other theory than that the hirsuteness of the undersurface was the *distinctive character* of *Cotidia*. One other character capable of having been thought generic is attributed to *Cotidia australis*, viz., “thorace globuloso convexo”; but as in no description is the prothorax of *Sericesthis* alluded to at all by Boisduval this is not likely to be the character on which that author founded *Cotidia*; and finally,—if it were the character that induced Boisduval to distinguish *australis* generically from his *Sericesthis geminata*, &c., it would be equally effective with the previously mentioned character in proving that *Cotidia australis*

could not be *Melolontha pruinosa*, Dalm., (as more fully described by Dr. Burmeister). My conclusion therefore is that if the specimen credited with being the type of *Cotidia australis* is congeneric with *Sericesthis geminata*, Boisd., that specimen cannot have been correctly identified as the type, and that the only possible course is to erase *Cotidia australis* altogether from the Catalogue as absolutely incapable of identification.

The sexual distinctions of *Sericesthis* are very uncertain and I do not know even *one* that can be called genuinely characteristic of the genus,—indeed to determine the sex of a given specimen (without dissection) it is frequently necessary to fall back on the slight clue afforded by the convexity or otherwise of the outline of the ventral segments viewed from the side. M. Lacordaire states that the males have the joints of the antennal flabellum elongated and the apical ventral segment emarginate behind, but I do not find these characters reliable. In *S. pruinosa*, Dalm., the apical ventral segment of both sexes is emarginate and (beyond the convexity or otherwise of the hind body) I can find no sexual difference except in the antennal flabellum, even the length and robustness of the tarsi scarcely showing any sexual differences. In *S. dispar*, Blackb., both M. Lacordaire's distinctions hold good and in addition the male is black and the female red. In *planiceps*, Blackb., the male has the joints of the antennal flabellum quite short (shorter than in the female of *S. pruinosa*, Dalm.) and the apical ventral segment emarginate behind, while the female (if I am right in its identification) scarcely differs except in being of a lighter colour, in having the apical ventral segment different, and in being less narrowed and more ovate. I cannot doubt the specimens of *S. planiceps* which I regard as males being really of that sex in spite of the shortness of the joints of their antennal flabellum,—their narrow elongate form, hind body not convex longitudinally, very strongly tumid pygidium, strongly emarginate apical ventral segment and extremely long tarsi being in combination I think quite conclusive.

The species of *Sericesthis* present no less difficulty than the generic name,—so much difficulty in fact that it will be necessary,

if I am to make my work intelligible, to discuss the history and synonymy of some of them as an introduction. The type of the genus,—*Melolontha pruinosa*, Dalm., (= *Sericesthis geminata*, Boisd.); is a well known insect, common in N. S. Wales. Of the other four species described by Boisduval *S. rufipennis* has been made the type of a new genus (*Colobostoma*, Blanch.), which I believe should be recognised, and hope to deal with in the next part of this series of "Revisions"; *S. cervina* is not sufficiently described for identification, but is placed by M. Blanchard (presumably from inspection of the type) in *Heteronyx*, while Dr. Burmeister places it in the genus *Caulobius* (the validity of *Caulobius* need not now be discussed, but I may just say that if Dr. Burmeister was right in his identification of it, it has nothing to do with *Sericesthis* or *Heteronyx*, and if he was wrong it is probably a mere synonym of *Heteronyx*; to which subject I hope to return in a subsequent memoir; for the present it is sufficient to say that *S. cervina*, Boisd., is clearly not a true congener of *Melolontha pruinosa*, Dalm., as we now understand the term congener in this case); *S. nigrolineata* is stated by M. Blanchard to be from Tasmania (Boisduval merely says "New Holland") and to be identical with *S. languida*, Er., which determination, though by no means unlikely, must be taken, I think, as "not proven," since M. Blanchard does not appear to have seen the type of *S. languida*, but the description of *S. nigrolineata* (which reads much as if founded on a slight var. of *S. pruinosa*, Dalm.) would, I think, serve to identify the insect if one had an example known to be from Tasmania; *S. pullata* is placed by M. Blanchard as congeneric with *S. geminata* and *nigrolineata*, and therefore is, I presume, a genuine *Sericesthis*, but without the authority of one who had inspected the type I should have thought that the phrase "elytris subtomentosis" in Boisduval's description could hardly apply to a member of this genus. *Melolontha chlorotica*, Gyll., is stated by Dr. Burmeister, after inspection of the original type, to be congeneric with *M. pruinosa*, Dalm.; it seems to be well distinguished by having a transverse carina on the head. The two species from Tasmania, described by Erichson (*sericans* and

languida) ought to be easily recognisable as the descriptions are fairly good; the latter is said to be identical with *S. nigrolineata* (as noted above); both are described as having 8-jointed antennæ and are very likely to be confined to Tasmania. M. Blanchard's four species present a difficulty, inasmuch as their author does not directly refer to the number of joints in their antennæ; by referring to Erichson's description of *Scitala* for the generic characters of *Sericesthis* he no doubt implies that the antennæ are 8-jointed, but on the other hand (judging by my own experience of the proportion of species with 9-jointed antennæ) I should think it very improbable that all the examples before him had those organs only 8-jointed, and further, I am fairly confident that I know his *S. aureo-rufa* and, if so, it certainly has 9-jointed antennæ; therefore I am of opinion that M. Blanchard did not carefully examine the antennæ of the species he described. *S. pruinosa*, Blanch., is not identical with *Melolontha pruinosa*, Dalm., (which species was evidently not known to M. Blanchard); this has been since pointed out by M. von Harold, and Blanchard's species re-named *rugosula*; examples in my collection seem to appertain to it. *S. rugosiceps*, Blanch., from Eastern Australia, is said to have its head (in singular contrast to the name) "subtillissime punctatum," and to be "omnino rufa" with the elytra "dilutius rufa submicantia"; I have seen no species presenting these characters. *S. glabra* appears to be a non-iridescent species from Eastern Australia, with strong puncturation and the sterna "vix pilosa"; perhaps my *S. dispar*, *erosa* and *puncticollis* (vide infra) are all allied to it but they all have much the same thin pilosity on the sterna that is usual in the genus, and the "antennis rufis" of *S. glabra* would not agree with any of them; the description of *S. glabra* is, however, most meagre and would come near fitting almost any non-iridescent species in the genus. As I have seen no non-iridescent *Sericesthis* from Eastern Australia I have no doubt *S. glabra* is a good species unknown to me. Dr. Burmeister added two species to the genus, which he named *rorida* and *ænescens*; I think I know them both and purpose referring to them again in the next part of this "Revision" among

the species with 9-jointed antennæ. Since the issue of Dr. Burmeister's "Handbuch" three species have been named by Sir William Macleay; of these *S. armaticeps*, from Queensland, does not appear to differ in any appreciable character from *S. chlorotica*, Gyll.; *S. suturalis*, also from Queensland, is not very satisfactorily described as the structure of the antennæ is not referred to, but the black suture of its elytra seems to be a distinctive character; *S. pallidula*, from N. W. Australia, is only doubtfully referred to *Scitula*, and unfortunately its author does not specify the reason of his doubts, nor furnish any description of the antennæ; I am fairly certain that I have not seen any of Sir William's species.

The following are descriptions of new species in my collection appertaining to the section of the genus in which the antennal flabellum has only 8 joints. In the next part of this "Revision" I hope to deal with the other section and to supply a tabulation of the species.

SERICESTHIS PARALLELA, sp. nov.

♂. Elongata; sat convexa; sat parallela; sat nitida; rufotestacea, subtus dilutior, nec pruinosa nec iridescens nec velutina; capite (hoc postice sat tumido) crebrius subtilius sat æqualiter, prothorace (hoc antice parum angustato) paullo fortius minus crebre, elytris (his 4-geminato-striatis, striarum geminatarum interstitiis subplanis) leviter nec crebre, pygidio crebrius fortius, punctulatis; clypeo antice sat fortiter reflexo, truncato vel late vix emarginato; corpore subtus sparsim subtilissime (metasterno ad latera et coxis posticis magis fortiter exceptis) punctulato; sternis femoribusque pilis elongatis sparsissime vestitis; tibiis anticis extus obtuse sat fortiter tridentatis, dente femori proximo quam 2^{us} sat minore; tarsis validis elongatis, subtus sparsissime lineatim setis brevibus vestitis; tarsorum posticorum articulo 1° 2° vix breviori; antennis 8-articulatis, flabello stipite sat longiori; abdominis segmento ultimo late vix emarginato, apice sub-reflexo.

[Long. $4\frac{1}{2}$, lat $2\frac{1}{5}$ lines.

♀. Latet.

The prothorax has no indication of a dorsal channel, and is quite three-quarters again as wide as long; its base (which is very feebly convex hindward all across) is distinctly less than half again as wide as the front which is not bisinuate (as it is in most species of *Sericesthis*), and is only moderately emarginate with angles not much produced though sharp; the sides are feebly rounded, the hind angles much rounded off. The pygidium is not at all strongly tumid. The tarsi resemble those of *S. planiceps* but are more slender and scarcely so long.

S. Australia; Woodville near Adelaide; two male examples flew to light.

SERICESTHIS MICANS, sp. nov.

Minus elongata; minus convexa; sat nitida; rufa, capite prothorace elytrisque rufo-cæruleis iridescentibus; capite (hoc postice sat tumido) subtilius crebre (postice quam in clypeo minus crebre), prothorace (hoc postice quam antice plus dimidio latiori) crebre fortiter, elytris (his 4-geminato-striatis) sat fortiter minus crebre, pygidio sat fortiter sat crebre, punctulatis; clypeo antice rotundato fortiter reflexo; subtus latera versus metasterno et coxis posticis sparsim sat fortiter, abdomine minus fortiter vix crebrius, punctulatis; sternis femoribusque pilis elongatis sparsissime vestitis; tibiis anticis extus acute tridentatis, dente femori proximo 2° multo minori; tarsis minus robustis minus elongatis subtus vix setosis; tarsorum posteriorum articulo 1° 2° sat æquali; antennis 8-articulatis; flabello (? feminae) stipite multo breviori; segmento ventrali apicali postice truncato. [Long. $4\frac{1}{2}$ - $5\frac{1}{2}$, lat. $2\frac{1}{3}$ - $3\frac{1}{5}$ lines.

Var. (?) supra vix cærulea.

The distinguishing characters of this species among those known to me having their upper surface iridescent are the distinctly *bluish* tone of the upper surface, in some examples entitling the insect to be called a bright blue one,—and the close strong puncturation of the prothorax accompanied by an exceptionally sparse puncturation of the sides of the metasternum and hind coxæ. The prothorax is nearly twice as wide as long, its front angles well

produced and sharp (more so than in *S. planiceps*,—much as in *S. pruinosa*, Dalm.), its sides only moderately rounded, its hind angles scarcely defined (less distinct than in *S. pruinosa*, Dalm.,—much as in *S. planiceps*); it is less convex longitudinally (*i.e.*, less declivous behind) than in *S. planiceps*; it has no trace of a dorsal channel; its puncturation resembles that of *S. planiceps* and is very evidently stronger and closer than in *S. pruinosa*, Dalm. The puncturation of the metasternum and hind coxæ is evidently less close than in *S. pruinosa* and very much less close than in *S. planiceps*,—the hind coxæ being (as in *planiceps*) decidedly shorter in comparison with the metasternum than in *S. pruinosa*. From *S. parallela* the closely punctured prothorax with its bisinuate front margin is in itself a very sufficient distinction.

I am of opinion that all the half dozen specimens I have seen of this species are females, although the capriciousness of this genus in respect of sexual characters (already alluded to) suggests the question whether it is possible that the light coloured examples, with the blue colouring a mere iridescence, can be males; in these the ventral segments certainly seem a little flatter than in the genuinely blue examples.

S. Australia; near Port Victor.

SERICESTHIS PLANICEPS, sp. nov.

♂. Elongata; subcylindrica; postice haud dilatata; sat nitida; testaceo-rufa, prothorace elytrisq̄e brunneo-purpureis, nec pruinosa nec iridescens nec velutina; capite plano æquali sat crebre sat æqualiter punctulato; prothorace crebrius subtilius, elytris (his 4-geminato-striatis, striarum geminatarum interstitiis sat fortiter convexis) fortiter minus crebre, pygidio crebre fortius, punctulatis; clypeo antice late leviter rotundato minus fortiter reflexo; corpore subtus ad latera sat fortiter, medium versus gradatim subtilius, punctulato; sternis femoribusque pilis sparsis vestitis; coxis posticis quam metasterno multo brevioribus; tarsis validis elongatis, subtus sparsissime lineatim setis validis brevibus vestitis; tarsorum posticorum articulis primis 2 inter se subæqualibus; antennis 8-articulatis,

flabello stipite sat breviori ; abdomine segmento ultimo haud punctulato, transversim rugato, apice late vix emarginato subreflexo. [Long. $5\frac{1}{5}$, lat. $2\frac{4}{5}$ lines (vix).

♀. (?) Minus elongata ; paullo minus convexa ; prothorace elytrisqve vix purpurascens ; clypeo antice vix rotundato, paullo magis fortiter reflexo ; antennarum flabello vix breviori ; abdominis segmento ultimo punctulato, postice haud emarginato. [Long. $5\frac{1}{5}$, lat. $2\frac{1}{2}$ lines.

The prothorax has no indication whatever of a dorsal channel ; it is slightly more than half again as wide as it is long ; its base (which is gently and almost evenly convex hindward) is about half again as wide as the front which is strongly and somewhat bisinuatly concave in outline, with sharp angles ; the sides are fairly strongly rounded and are at their greatest divergence scarcely behind the middle ; the hind angles are much rounded off but not quite non-existent. The pygidium is strongly tumid in the male,—even more so than in *S. pruinosa*, Dalm. ; in the female it is much less so. Two or three short stout bristles are found placed along the middle line on the underside of each tarsal joint. The salient characters of this species seem to be the flat head (the hinder part being not in the least tumid and scarcely differing in puncturation from the clypeus from which it is separated by an angulated suture) the colour of which is red in strong contrast (in the male) with the purplish-brown prothorax and elytra,—together with the very long stout tarsi (the hinder 4 about twice as long as their tibiæ) and the entire absence of pruinosity, iridescence, and any “velvety” appearance. The sides of the metasternum are very closely punctured, the interstices of the punctures appearing from a certain point of view as continuous transverse zig-zag wrinkles.

The species of *Sericesthis* with 8-jointed antennæ described by Burmeister are all pruinose. Of those described by Blanchard (the number of joints in the antennæ is not stated in any of his descriptions though it seems to be implied that they are 8) *S. glabra* is not said to be pruinose ; its description would fit almost any species of the genus except in respect of the words “fere plana”

which certainly would not apply to any specimen I have seen of the above. *S. armaticeps*, Macl., and *chlorotica*, Gyll., have a strong transverse ridge on the clypeus; *nigrolineata*, Boisd., is not intelligibly described but seems to have a pattern-like marking on the elytra; *sericans*, Er., has the hinder part of the head blackish and the puncturation "obsolete"; *languida*, Er., is a coarsely rugulose species.

S. Australia; widely distributed.

SERICESTHIS PARVIPES, sp.nov.

♂♀. A præcedente vix differt nisi tarsis gracilibus brevibus subtus setis gracilibus sat elongatis vestitis.

[Long. $5\frac{1}{5}$, lat. $2\frac{1}{5}$ lines.

I believe the two examples (in my collection) of this species to be male and female although I can discover no difference between them except in the pygidium of one (probably the male) being strongly tumid and the apical ventral segment being feebly wrinkled transversely, with puncturation obsolete (this segment is almost straight behind in both examples), while in the other the pygidium is scarcely tumid and the apical ventral segment is not wrinkled and is much more distinctly punctured. The colour of both examples is brownish-ferruginous and the shape is much like that of *S. planiceps* (female). The clypeus in both examples is even more strongly reflexed in front than in *S. planiceps* (female) and in the male is emarginate in the middle of the front. Otherwise it does not differ much from *S. planiceps* except in the tarsi being much shorter and more slender (considerably more so than in *S. pruinosa*, Dalm.) with their underside more setose.

S. Australia.

SERICESTHIS DISPAR, sp.nov.

♂. Sat elongata; postice vix dilatata; sat nitida; nigra vel piceo-nigra, nec pruinosa nec iridescens nec velutina, antennis palpis tarsisque plus minus dilutioribus; capite confertim fortius, prothorace pygidioque (hoc longitudinaliter sulcato) magis fortiter minus crebre, elytris

fortiter rugulose (his evidentem 4-costatis, interstitiis transversim rugulosis) punctulatis; clypeo antice æqualiter rotundato sat fortiter reflexo; capite postice sat tumido, corpore subtus sat fortiter minus crebre punctulato, sternis femoribusque pilis sparsis subfulvis vestitis; tibiis anticis extus sat fortiter tridentatis, dente femori proximo quam 2^{us} dimidio minore; tarsorum posticorum articulo 1° 2° vix breviori; tarsis subtus haud lineatim setigeris; antennis 8-articulatis, flabello stipite paullo longiori; abdominis segmento ultimo late vix emarginato, apice subreflexo.

[Long. $4\frac{3}{5}$, lat. $2\frac{2}{5}$ lines (vix).

♀. Latior; postice magis dilatata; rufo-ferruginea, capite obscuriori; antennarum flabello stipite breviori; abdominis segmento ultimo haud emarginato apice vix reflexo.

[Long. $4\frac{3}{5}$ - $5\frac{1}{5}$, lat. $2\frac{2}{5}$ - $2\frac{4}{5}$ lines.

The prothorax has scarcely an indication of a channel down the middle; it is a little more than half again as wide as long, its base (which is feebly bisinuate) being about half again as wide as the front which is deeply emarginate with sharp and well produced angles; it is widest a little behind the middle; the sides are moderately rounded; the hind angles are much rounded but not quite non-existent. The puncturation of the underside is moderately large but neither close nor deep; it is finer than elsewhere on the ventral segments, where in some specimens (usually females) it is somewhat obsolete.

This species is no doubt allied to *S. languida*, Er., which however is said to be "pruinose," and to have its scutellum lævigata (the puncturation of the scutellum is not invariable in *S. dispar*, but I have seen no example in which it is quite lævigata) and the posterior angles of the prothorax "acutiusculi." From the analogy of *S. erosa* there is perhaps a doubt whether the variation of colour is always sexual,—though I have found it so in the specimens,—about a dozen,—that I have examined.

Port Lincoln.

SERICESTHIS EROSA, sp.nov.

♂. Minus elongata; postice leviter dilatata; colore variabilis (nigra, nonnullis exemplis plus minus ferrugineis), nec pruinosa nec iridescens nec velutina; capite confertim fortius, pygidio magis fortiter minus crebre, elytris fortiter vix rugulose, punctulatis; prothorace fortiter vermiculato-rugoso, longitudinaliter sat late sulcato, sulco antice abbreviato; elytris sat manifeste 4-costatis; clypeo antice sat æqualiter rotundato, medio vix sinuato, sat fortiter reflexo; capite postice sat tumido; corpore subtus sparsim subtiliter (metasterno ad latera crebrius fortius excepto) punctulato, sternis ad latera femoribusque pilis sparsis subfulvis vestitis; tibiis anticis extus sat fortiter tridentatis, dente femori proximo quam 2^{us} dimidio minore; tarsis subtus haud lineatim setigeris; tarsorum posteriorum articulis primis 2 inter se subæqualibus; antennis 8-articulatis, flabello stipite vix longiori; abdominis segmento ultimo late vix emarginato, apice subreflexo.

[Long. $4\frac{1}{2}$, lat. $2\frac{2}{3}$ lines.

♀. Latet.

Evidently allied to the preceding, from which it does not seem to differ except in respect of such characters as are specified above. It is at once distinguished from all other Australian Sericoid *Melolonthidæ* known to me by the extraordinary close rugulosity of its prothoracic sculpture; it may be noted that the sculpture of the *head* begins to assume this same vermiculate-rugulose appearance in its extreme hinder part. Probably the female does not differ much from the male except in the flabellum of the antennæ being shorter and the apical ventral segment not at all emarginate. The elytra are very evidently less rugulose transversely than those of *S. dispar*, from which the much shorter flabellum of the antennæ in the male is a structural character also strongly differentiating it.

Port Lincoln.

SERICESTHIS PUNCTICOLLIS, sp.nov.

♂. Parum elongata; postice sat dilatata; nigra, pedibus rufis (unico exemplo perspecto), nec pruinosa nec iridescens nec

velutina ; capite confertim sat fortiter, prothorace (hoc leviter canaliculato) confertim fortissime, elytris (his manifeste 4-costatis) crasse rugulose, pygidio fortiter minus crebre, punctulatis ; clypeo antice sat æqualiter rotundato sat fortiter reflexo ; capite postice sat tumido ; corpore subtus sparsim minus subtiliter punctulato ; sternis ad latera femoribusque pilis subfulvis sparsis vestitis ; tibiis anticis extus acute tridentatis, dente femori proximo parvo ; tarsis subtus haud lineatim setigeris ; tarsorum posticorum articulis primis 2 inter se subæqualibus ; antennis 8-articulatis, flabello stipite vix longiori ; abdominis segmento ultimo late vix emarginato, apice subreflexo. [Long. 4, lat. $2\frac{2}{3}$ lines (vix).

♀. Rufo-ferruginea ; antennarum flabello stipite sat breviori ; abdominis segmento ultimo apice haud emarginato.

[Long. $4\frac{1}{2}$, lat. $2\frac{1}{2}$ lines.

Closely allied to the preceding two species ; from the former it differs *inter alia* in the much shorter flabellum of the antennæ in the male and in the closer puncturation of the prothorax, the dorsal channel of which is much more defined ; from the latter in the much feebler dorsal channel and much less rugulose sculpture of the prothorax, and in the clypeus more evenly rounded in front ; it is an evidently shorter and more ovate species than either of them.

S. Australia ; Balaclava ; also on Yorke's Peninsula.